

WEST Search History

DATE: Tuesday, September 30, 2003

Set Name Query

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result set

DB=USPT; PLUR=YES; OP=ADJ

L6	queue near7 (order\$ or reorder\$ or sort\$ or arrang\$) near10 (collision or collid\$)	19	L6
L5	L3 same (collision or collid\$)	1	L5
L4	L3 near10 (collision or collid\$)	0	L4
L3	L2 near7 (order\$ or reorder\$ or sort\$ or arrang\$)	225	L3
L2	priority queue	1240	L2
L1	6473815.pn.	1	L1

END OF SEARCH HISTORY

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L6: Entry 15 of 19

File: USPT

Apr 10, 2001

DOCUMENT-IDENTIFIER: US 6216178 B1

TITLE: Methods and apparatus for detecting the collision of data on a data bus in case of out-of-order memory accesses of different times of memory access execution

Abstract Text (1):

According to the present invention, a system for reordering commands to achieve an optimal command sequence based on a target response restriction is disclosed. A data queue coupled to a command queue is arranged to store a time indicating when the data transfer will appear on the data bus between the controller for an already issued request to the target device as well as arranged to store the burst bit and the read/write bit (r/w). The system also includes a collision detector coupled to the data queue and the command queue arranged to detect the possible collisions on the data bus between the issued command that is stored in the command queue and already issued commands that are stored in the data queue. A queues and link controller is coupled to the collision detector and the data queue and the command queue and is arranged to store and reorder commands to be issued wherein the controller calculates the new issue time of commands as well as a time when the data appears on the data bus.

Brief Summary Text (14):

According to the present invention, techniques for detecting the collision of data on a data bus in case of out-of-order memory accesses or different times of memory access execution are described. A system for reordering commands to achieve an optimal command sequence based on a target response restriction that determines an optimal slot for a data transfer between an initiator controller and a target subsystem by prohibiting an issuance of a command that would cause a data conflict includes a command queue arranged to stores commands to be issued, a time indicating when the data transfer appears on a data bus between the controller and the target device after the command was issued to the target, a burst-bit indicating data burst transfer and a read write-bit (r/w). A data queue coupled to the command queue arranged to store a time indicating when the data transfer will appears on the data bus between the controller for an already issued request to the target device as well as arranged to store the burst bit and the w bit. The system also includes a collision detector coupled to the data queue and the command queue arranged to detect the possible collisions on the data bus between to be the issued command that is stored in the command queue and already issued commands that are stored in the data queue. The system also includes a queues and link controller coupled to the collision detector and the data

queue and the command queue arranged to store and reorder commands to be issued wherein the controller calculates the new issue time of commands as well as a time when the data appears on the data bus.

Detailed Description Text (134):

In a preferred embodiment, the collision detection system 2000 includes a queues and link controller unit 2010 arranged to store and reorder those commands that are to be issued. The queues and controller unit 2010 also calculates the new issue time of commands and a time when the data appears on the data bus. The queues and controller unit 2010 also transfers the issued element from the command queue into the data queue as well as removing it from the command queue after the command was issued. The queues and controller unit 2010 also removes data elements from the data queue after the access to the memory has been completed.

CLAIMS:

1. A system for reordering commands to achieve an optimal command sequence based on a target response restriction that determines an optimal slot for a data transfer between an initiator controller and a target subsystem by prohibiting an issuance of a command that would cause a data conflict, comprising:

a command queue arranged to store commands to be issued, a time indicating when the data transfer appears on a data bus between the controller and the target device after the command was issued to the target, a burst-bit indicating data burst transfer and a read/write bit (r/w);

a data queue coupled to the command queue arranged to store a time indicating when the data transfer will appear on the data bus between the controller for an already issued request to the target device as well as arranged to store the burst bit and the read/write bit (r/w);

a collision detector coupled to the data queue and the command queue arranged to detect the possible collisions on the data bus between the issued command that is stored in the command queue and already issued commands that are stored in the data queue;

a target subsystem characterization data base for storing target subsystem characterization data; and

a queues and link controller coupled to the collision detector and the data queue and the command queue arranged to store and reorder commands to be issued wherein the controller calculates the new issue time of commands as well as a time when the data appears on the data bus, wherein the new issue time is based at least in part on the target subsystem characterization data.

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L6: Entry 16 of 19

File: USPT

Feb 27, 2001

DOCUMENT-IDENTIFIER: US 6195724 B1

TITLE: Methods and apparatus for prioritization of access to external devices

Detailed Description Text (122):

In a preferred embodiment, the collision detection system 2000 includes a queues and link controller unit 2010 arranged to store and reorder those commands that are to be issued. The queues and controller unit 2010 also calculates the new issue time of commands and a time when the data appears on the data bus. The queues and controller unit 2010 also transfers the issued element from the command queue into the data queue as well as removing it from the command queue after the command was issued. The queues and controller unit 2010 also removes data elements from the data queue after the access to the memory has been completed.

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L6: Entry 19 of 19

File: USPT

Mar 14, 1989

DOCUMENT-IDENTIFIER: US 4813012 A

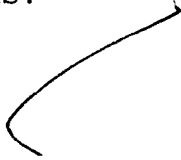
TITLE: Terminal access protocol circuit for optical fiber star network

Detailed Description Text (21):

Each terminal transmits queue state data containing information on the type of message to be transmitted and its priority. Terminals transmit in an order determined from such information by the aforementioned network delay queue collision avoidance algorithm, in a fully asynchronous manner; it is even possible for transmissions from the same terminal to occupy several time slots of information transmission interval M_i within a single frame Q_i .

(r/w); in a data queue coupled to the command queue, storing a time indicating when the data transfer will appear on the data bus between the controller for an already issued request to the target device, and storing the burst bit and the read/write bit (r/w); at a collision detector coupled to the data queue and the command queue, detecting the possible collisions on the data bus between the issued command that is stored in the command queue and already issued commands that are stored in the data queue; storing target subsystem characterization data at a target subsystem characterization data base; and at a queues and link controller coupled to the collision detector the data queue and the command queue, reordering commands to be issued wherein the controller calculates the new issue time of commands as well as a time when the data appears on the data bus, wherein the new issue time is based at least in part on the target subsystem characterization data, and storing the reordered commands.

6. An apparatus for reordering commands to achieve an optimal command sequence based on a target response restriction that determines an optimal slot for a data transfer between an initiator controller and a target subsystem by prohibiting an issuance of a command that would cause a data conflict, comprising: at a command queue, a means for storing a command to be issued, a means for storing a time indicating when the data transfer appears on a data bus between the controller and the target device after the command was issued to the target, a means for storing a burst-bit indicating data burst transfer and a read/write bit (r/w); in a data queue coupled to the command queue, a means for storing a time indicating when the data transfer will appear on the data bus between the controller for an already issued request to the target device, and a means for storing the burst bit and the read/write bit (r/w); at a collision detector coupled to the data queue and the command queue, a means for detecting the possible collisions on the data bus between the issued command that is stored in the command queue and already issued commands that are stored in the data queue; a means for storing target subsystem characterization data at a target subsystem characterization data base; and at a queues and link controller coupled to the collision detector the data queue and the command queue, a means for reordering commands to be issued wherein the controller calculates the new issue time of commands as well as a time when the data appears on the data bus, wherein the new issue time is based at least in part on the target subsystem characterization data, and a means for storing the reordered commands.



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L6: Entry 12 of 19

File: USPT

Sep 18, 2001

DOCUMENT-IDENTIFIER: US 6292493 B1

TITLE: Method and apparatus for detecting collisions on and
controlling access to a transmission channelBrief Summary Text (3):

This invention relates to a method for detecting collisions in a transmission channel using a distributed queueing random access protocol (DQRAP) wherein broadcast channel time is divided into a plurality of slots, each of which includes one data slot and one or more control minislots, and each of a plurality of sending stations maintains two common distributed queues. One queue, the data transmission queue, is used to organize the order of data transmission, and the other queue, the collision resolution queue, is used to resolve collisions that have occurred and to prevent collisions by new arrivals. The protocol includes data transmission rules, request transmission rules and queueing discipline rules.

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